APPENDIX C:

COASTAL ZONE MANAGEMENT ACT CONSISTENCY CERTIFICATION

FORT BELVOIR DOUGE CREEK MAINTENANCE DREDGING AND MARINA IN-STREAM FACILITIES REPLACEMENT
COASTAL ZONE MANAGEMENT ACT (CZMA) CONSISTENCY CERTIFICATION

This document provides the Commonwealth of Virginia with the United States Army Garrison, Fort Belvoir Installation's (Fort Belvoir) Consistency Certification and necessary data and information under CZMA Section 307(c)(3)(A) and 15 CFR Part 930, sub-part D, for the proposed maintenance dredging project at Dogue Creek Marina and the access channel from the marina to the Potomac River, Fairfax County, Virginia and the placement of dredged material at Possum Point, Prince William County Virginia.

Certification:

Fort Belvoir certifies that the proposed activity complies with the enforceable programs of Virginia's Coastal Resources Management Program (VCRMP) and will be conducted in a manner consistent with the VCRMP.

Necessary Data and Information:

Fort Belvoir is located in southeastern Fairfax County, Virginia. Dogue Creek is a tributary to the Potomac River, located approximately 8.5 miles south of the Woodrow Wilson Bridge. Fort Belvoir proposes to conduct a maintenance dredging project to restore the navigational function and safety to the marina and access channel in Dogue Creek. Recent bathymetric surveys performed in Dogue Creek (EA 2004) indicated that water depths ranged from less than 1 to 2 ft MLW in the marina basin and ranged from 2 to 3 ft MLW in the access channel. The lack of sufficient water depth limits the functionality of the marina and access channel for the boats that use the marina.

The proposed action also includes the removal and replacement of existing piers and boat slips at the marina. An existing potable water line will also be replaced during the dredging project. The proposed dredging may impact the existing waterline; therefore, the waterline will be replaced by a new waterline placed at a deeper elevation prior to the initiation of maintenance dredging activities. The marina in-water structures will be replaced because they have exceeded their useful life span and will be replaced after maintenance dredging activities have been completed.

A proposed dredging window of 138 days from 1 October 2005 to 15 February 2006 is based on environmental constraints associated with the project area, including bald eagle foraging and nesting, growth of submerged aquatic vegetation, and potential use of the area by anadromous fish. The replacement of the existing potable waterline would be conducted in July 2005 and the rehabilitation of the existing marina structures would begin in spring of 2006. Because of the aggressive schedule proposed dredging may occur 12 hours per day 6-7 days per week, however, the dredging will not occur continuously because equipment maintenance and crew changes may result in periodic delays and shutdowns. Off-loading of the dredge material at Possum Point may follow the same schedule. A target production rate of 1,000 cubic yards (CY) per day is

assumed for the project to provide latitude for downtime due to bad weather, mechanical failure, or other unforeseen issues. A detailed description of the project follows:

Maintenance Dredging of Dogue Creek Marina and Navigational Channel

The limit of dredging for the proposed project includes a 40-ft-wide channel from the Potomac River to the Dogue Creek Marina and bank-to-bank within the marina basin to the boat ramps at the north end of the marina proper. The channel length proposed for dredging is approximately 7,600 ft (6,600 ft. channel length and 1,000 ft. basin length), and the proposed project depth is 6 ft relative to mean low water (MLW). Removal of approximately 75,000 (CY will be required (approximately 37,000 CY from the marina basin and approximately 38,000 CY from the access channel. The sides of the channel will be sloped at 3 horizontal to 1 vertical (3H:1V). In the marina basin, the east side will be dredged to 6 ft MLW against the existing bulkheads, and at the northern and western edges of the marina, the dredged area will tie to the surrounding area with a 3H:1V slope. The dredged material will be removed from the marina and channel using mechanical dredging equipment. The equipment will consist of a land-based clamshell bucket or clamshell bucket/crane apparatus, and when necessary the same type of equipment will be operated from a floating scow. Small scows with a draft less than 6 ft would be required due to existing shallow water conditions in Dogue Creek. The dredged material will be transported by barge and off-loaded at Dominion's Possum Point Station for upland placement. Possum Point is located approximately 15 miles downstream of Dogue Creek on the western shore of the Potomac River, Prince William County, Virginia. The facility was permitted by the Virginia Department of Environmental Quality (VDEQ) to accept dredged material in 2004.

Replacement of the Existing Potable Water Line

During the dredging operations, Fort Belvoir is proposing to decommission an existing water line and replace the water line in-kind at a greater depth. The existing water line is currently at a depth of 5.5 to 6 feet below MLW. The maintenance dredging activity within Dogue Creek will remove material up to a depth of approximately six feet. The location of the existing water line increases the probability that water service on either side of Dogue Creek will be disrupted if the water line is not replaced at a greater depth. The replacement of the existing potable water line project involves decommissioning the existing water line and using horizontal directional drilling (HDD) to install a new 8-inch high density polyethylene (HDPE) pipe at a greater depth in the same location as the existing water line pipe. The replacement water line pipe will be placed under Dogue Creek approximately 16 feet below the substrate (after dredging). There will be no construction activity within the water column in Dogue Creek or the tidal wetland areas along the shoreline. Staging areas and access roads to the project site are present from the construction of the existing water line at Dogue Creek. Each staging area will be placed in a previously disturbed area and each staging area will occupy less than 7,000 square feet. One pit will be located in each staging area and will be approximately 4-6 feet deep and will occupy approximately 400 square feet. Erosion and sediment control will be provided to meet Fairfax County and State standards. Construction

is expected to last for two weeks, so impacts to the land will be temporary, and the land will be returned to its existing condition after construction. Construction will also result in temporary and minor increases in dust and air emissions from equipment

Replacement of the Dogue Creek Marina In-Stream Facilities

Prior to conducting the maintenance dredging of the marina basin, the existing boats, pilings, and floating piers will be removed to provide clear access to the area to be dredged. The existing marina facility includes two ramps, 104 boat slips, and eight floating piers. The boat slips range in size from 12 to 14 ft wide and 24 to 36 ft long. The floating piers range from 5 to 15 ft wide and 40 to 132 ft long. The proposed marina layout is identical to the existing plan but includes a wider (6 ft) access pier and full-length finger piers 3 ft wide. Floating piers will be based on the Sullivan Floatation Systems-steel framed floats with a vinyl composite decking surface. New bulkheads will be placed no further than 18 inches seaward of the existing bulkheads. Riprap sections will be developed for the areas between the bulkhead sections and will extend from the mudline to the top-of-bank elevation. Also included in the design is a travel lift with a capacity of 25 tons. The existing sanitary sewer pumpout station will be replaced in its current location. The activities comprising the replacement of the in-stream facilities at the Dogue Creek marina will occur after the dredging project has been completed and outside of the restriction windows for anadromous fish, short-nose sturgeon, and bald eagle nesting, approximately, Spring 2006.

Barging of the Dredged Material to a Placement Site

Possum Point is located in Virginia, approximately 15 miles south of Dogue Creek on the western shore of the Potomac River in Prince William County. The facility was permitted in early 2004 to accept dredged material and the U.S. Army Corps of Engineers (USACE) plans to use the facility to place material dredged from the federally maintained navigation channels in the Potomac River. The dredged material from Dogue Creek would be placed in 300 CY scows and towed to Possum Point and will be mechanically offloaded at the existing Possum Point oil docks. The material will be transferred from the barges by clamshell bucket to sealed bed trucks and transported approximately one mile on public roads to the ash pond. The trucks will offload the material at the edge of the placement site and a bulldozer will push the material into the ash pond.

Because the proposed activities included in the Fort Belvoir maintenance dredging project are located within Zone A of the Virginia Coastal Zone, an evaluation including findings relating to the probable coastal effects of the project in relation to the nine enforceable policies of the Virginia Coastal Resources Management Program is provided below:

a. Fisheries Management

The Fisheries Management Program stresses the conservation and enhancement of finfish and shellfish resources and the promotion of commercial and recreational fisheries to

maximize food production and recreational opportunities. This program is administered by the Marine Resources Commission (VMRC); Virginia Code 28.2-200 to 28.2-713 and the Department of Game and Inland Fisheries (DGIF); Virginia Code 29.1-100 to 29.1-570.

The State Tributyltin (TBT) Regulatory Program has been added to the Fisheries Management Program. The General Assembly amended the Virginia Pesticide Use and Application Act as it related to the possession, sale, or use of marine antifoulant paints containing TBT. The use of TBT in boat paint constitutes a serious threat to important marine animal species. The TBT program monitors boating activities and boat painting activities to ensure compliance with TBT regulations promulagated pursuant to the amendment. The MRC, DGIF, and VDACS share enforcement responsibilities (Virginia Code 3.1-249.59 to 3.1-249.62).

Fort Belvoir will temporarily affect finfish and/or shellfish resources located in Dogue Creek during the maintenance dredging and marina in-stream facilities replacement activities. Disturbance of benthic habitat, increased turbidity, and overall level of human and mechanical activity may cause local fish populations to relocate. Dredging activities will be localized; as dredging is completed in one area the dredge will progress upstream eventually reaching the Dogue Creek Marina. No impacts to the finfish and/or shellfish resources in Dogue Creek would be affected by the replacement of the potable water line. The water line will be drilled or bored under Dogue Creek. U.S. Army Garrison, Fort Belvoir will not use tributyltin (TBT) in any form, nor will it stimulate the use of that chemical by any product users and no commercial fisheries are located in Dogue Creek. The anticipated fall-winter dredging period would avoid the normal spawning and juvenile periods of resident and anadromous fish species, so that vulnerable early life stages would not be present during the maintenance dredging operations and marina in-stream replacement activities.

b. **Subaqueous Lands Management**

The management program for subaqueous lands established conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, wetlands, adjacent or nearby properties, anticipated public and private benefits, and water quality standards established by the Department of Environmental Quality (VDEQ). The program is administered by the Marine Resources Commission; Virginia Code 28.2-1200 to 28.2-1213.

The proposed maintenance dredging, potable water line replacement, and marina in-stream replacement activities will not affect wetlands, adjacent or nearby properties, or public or private benefits. Fisheries resources in the vicinity of the active dredge site will be temporarily affected by the disturbance of benthic habitat, and increased turbidity. Water quality standards will change temporarily during dredging due to increased turbidity from displaced sediments. Permits from the U.S Army Corps of Engineers (USACE) and VMRC have been acquired for activities associated with the subaqueous water line replacement project. The three projects at Fort Belvoir will be covered under Nationwide Permits (NWP).

The water line project will be covered under NWP 12 – Utility Line Activities; maintenance dredging project is covered under the NWP 35-Maintenance Dredging of Existing Marina Basin and NWP 3 - Maintenance; and the marina repair project is covered under NWP 28-Maintenance Modifications of Existing Marina. USACE has issued a verification for use of the Nationwide Permits, and VDEQ has issued a "No Permit Required" letter. A Joint Permit Application has been submitted, and all permits will be obtained prior to the initiation of construction activities.

c. Wetlands Management

The purpose of the Wetlands Management Program is to preserve wetlands, prevent their despoliation, and accommodate economic development in a manner consistent with wetlands preservation. The tidal wetlands program is administered by VMRC (Virginia Code 28.2-1303 through 28.2-1320).

The proposed maintenance dredging project and associated activities will not affect tidal or non-tidal wetlands.

d. Dunes Management

Dune protection is carried out pursuant to The Coastal Primary Sand Dune Protection Act and is intended to prevent destruction or alteration of primary dunes. This program is administered by the Marine Resources Commission; Virginia Code 28.2-1400 through 28.2-1420.

There are no primary dunes that are within the project site or that would be affected by the proposed activities.

e. Non-Point Source Pollution Control

The Department of Conservation and Recreation (DCR) administers Virginia's Erosion and Sediment Control Law, which requires soil-disturbing projects to be designed to reduce soil erosion and to decrease inputs of chemical nutrients and sediments to the Chesapeake Bay, its tributaries. This program is administered by the Department of Conservation and Recreation (Virginia Code 10.1-560 et.seq.).

Land disturbance for the preferred alternative water line replacement is expected to be approximately 10,000 square feet, the threshold for DCR review of erosion and sediment control plans for Federal projects. If it is determined in final design that this threshold will be equaled or exceeded, then Fort Belvoir will obtain DCR approval for its erosion and sediment control plan. Fort Belvoir will use best management practices to control erosion and sediments during any excavation, landfilling or disturbance of the existing ground during the water line replacement and the marina in-stream facilities replacement activities. Erosion and sediment control will be provided to meet Fairfax County and Commonwealth of

Virginia standards in accordance with the Virginia Erosion and Sediment Control Law and General Criteria, including the *Virginia Erosion and Sediment Control Handbook*.

Additional non-point source pollution control is achieved through VCP Coastal Lands Management Program, which is discussed in Paragraph (i).

f. Point Source Pollution Control

The point source program is administered by the State Water Control Board (Virginia Code 62.1-44.15). Point source pollution control is accomplished through the implementation of the National Pollutant Discharge Elimination System (NPDES) permit program established pursuant to Section 402 of the federal Clean Water Act and administered in Virginia as the VPDES permit program.

The dredged material will be transported to Dominion's Possum Point, a permitted facility that collects dredged material. A VDPES permit has been issued to Dominion by VDEQ (permit # VA0002071).

g. Shoreline Sanitation

The Shoreline Sanitation Program regulates the installation of septic tanks, set standard concerning soil types suitable for septic tanks, and specify minimum distances that tanks must be placed away from streams, rivers, and other waters of the Commonwealth. This program is administered by the Department of Health; Virginia Code 32.1-164 through 32.1-165.

The Shoreline Sanitation Program regulates the installation of septic tanks. As there are no septic systems proposed in the Dogue Creek Dredging project, this program is not relevant to this particular project.

h. Air Pollution Control

The Air Pollution Control Program implements the Federal Clean Air Act to provide a legally enforceable State Implementation Plan (SIP) for the attainment and maintenance of the National Ambient Air Quality Standards. This program is administered by the State Air Pollution Control Board (Virginia Code 10-1.1300 through 10.1-1320).

The Dogue Creek Marina and Access Channel dredging areas are located in Fairfax County, VA, and the dredged material placement site at Possum Point south of the dredging area is located in Prince William County, VA. Fairfax and Prince William Counties are part of the National Capital Interstate Air Quality Control Region (AQCR 47), which also includes several other northern Virginia counties, the District of Columbia, and several counties in Maryland. The region was re-designated from serious to severe non-attainment for ozone (O_3), effective March 2003, and designated as moderate non-attainment for the new 8-hour ozone standard in June 2004. The counties also were designated as moderate non-attainment for the new $PM_{2.5}$ (particulate matter greater than 2.5 microns) standard in December 2004.

A non-attainment area is one that does not meet applicable National Ambient Air Quality Standard (NAAQS) or that contributes to ambient air quality in a nearby region that does not meet the NAAQS. The region is in attainment for all other NAAQS pollutants, which include carbon monoxide (CO), particulate matter greater than 10 microns (PM_{10}), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb).

The State of Virginia also is part of the Northeast Ozone Transport Region (OTR), which was established in the 1990 Clean Air Act Amendments in recognition of the longstanding ozone non-attainment problems in the northeast. The OTR is the area consisting of the Northeast and Mid-Atlantic states that historically has a ground level ozone problem, a large amount of which is accounted for by emissions generated outside the region. The Ozone Transport Commission (OTC), which is a multi-state organization, provides oversight of the region and is responsible for advising EPA on transport issues and for developing and implementing regional solutions to the ground-level ozone.

The Dogue Creek marina and access channel dredging project will generate air emissions from the operation of dredging, tugs, and other heavy-duty equipment. Air emissions were estimated based on the proposed equipment and their hours of operation. Key equipment assumptions include:

Heavy-Duty Diesel Equipment	Number	Average Rated HP	Loading Factors
Clamshell Dredge	1	170	57%
Mechanical Unloader	1	170	57%
Towing Tug - 800 hp	3	800	57%
Tender Tugs - 300 hp	2	400	57%
D6R Dozer	1	100	58%
16 CY Dump Trucks	8	350	57%

Using the assumptions regarding diesel equipment operating times and miles traveled by the dump trucks to dredge, transport, and place 84,000 CY of material and EPA diesel equipment and truck engine emission factors, air emissions were calculated and are summarized in Table 1.

Table 1. Dogue Creek Marina and Access Channel Dredging Air Quality Emissions

Heavy-Duty Equipment	Usage	Emissions (lbs)				
	(hrs)[1]	NO_X	VOC	PM_{10}	CO	SO_2
Clamshell Dredge	840	1,929	128	258	933	167
Mechanical Unloader	840	1,929	128	258	933	167
Towing Tug - 800 hp (3)	2,520	24,320	2,186	2,027	7,093	2,255
Tender Tugs - 300 hp (2)	1,680	8,107	729	676	2,364	752
D6R Dozer	840	1,106	139	119	516	91
	(mi)[2]					
16 CY Dump Trucks (8)	16,500	290	47	11	212	28
Total	lbs:	37,682	3,357	3,349	12,052	3,459
	tons:	18.84	1.68	1.67	6.03	1.73

[1] Assumes 12 hrs/day for 70 days of dredging, material transport, and material placement
[2] Assumes 3 mi/trip and 5,500 trips for material placement

One air quality related issue associated with proposed dredging projects relates to the need to demonstrate General Conformity under Section 176 of the Clean Air Act since the project is located in an area that is designated as severe for the NAAQS for ozone. The General Conformity rule requires any entity of the federal government that engages in, supports, or provides financial support for an activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP). Conformity requires federal actions to be consistent with the SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS. The pollutants of interest include nitrogen oxides (NO_X) and volatile organic compound (VOC) emissions since they are the precursors to the formation of ozone. If the estimated emissions from the proposed dredging project exceed 25 tons/year for either pollutant, then a General Conformity analysis must be conducted. As the data indicate, estimates of NOX and VOC emissions are below the threshold of 25 tons/year, and a General Conformity Analysis is not required.

The U.S. Army Garrison, Fort Belvoir will comply with the requirements of the VA Regulations for the control and Abatement of Air Pollution (9 VAC 3-50-60 et seq.), and other federal and state laws and policies encouraging the reduction of emissions of volatile organic compounds and oxides of nitrogen as well as fugitive dust during construction.

i. Coastal Lands Management

The Coastal Lands Management Program is a state-local cooperative program administered by the Chesapeake Bay Local Assistance Department and localities in Tidewater Virginia including Fairfax and Prince William Counties. All of the proposed dredging project will occur in Fairfax County; the placement of the dredge material will occur in Prince William County. Fairfax County implements the mandates of the Chesapeake Bay Preservation Act and Section 10.1-2100 et seq., of the *Code of Virginia* through its Chesapeake Bay Preservation Ordinance (Chapter 118 of the Code of the County of Fairfax). The ordinance

specifies that the Board of Supervisors adopt a map of Chesapeake Bay Preservation Areas (CBPA). Undesignated areas are Resource Management Areas (RMA). In Prince William County, the Chesapeake Bay Preservation Area Overlay District Ordinance (Chapter 32, Section 504 of the Prince William County Code) implements the requirements of the Chesapeake Bay Preservation Act and is enacted under the authority of the Chesapeake Bay Preservation Act and Section 15.2.2283 of the *Code of Virginia*. Section 10.1-2109 Code of Virginia authorizes the designation of Resource Management Areas in Prince William County.

In Fairfax County, RPAs include Chesapeake Bay tributary stream reaches and any land within 100 feet of the stream including Dogue Creek and the Potomac River. Provisions for protection of water quality as described above assure that the project will not have an adverse effect on resources within the Coastal Zone. The RPAs in Fairfax County include the Potomac River shoreline, major streams and wetlands adjacent to existing streams and shores, and a surrounding 100-ft buffer. Several areas on Fort Belvoir property meet the definition of RPAs.

Through agreement with Fairfax County, Fort Belvoir self-administers the local requirements of the County's Chesapeake Bay Protection Ordinance. Portions of the construction area for the water line project are expected to lie within the Resource Protection Area designated by the County, and land disturbance for the project is expected to exceed 2,500 square feet, the threshold for application of CBPO requirements. Fort Belvoir will implement erosion and sediment control on the project. Post-construction stormwater management will not be required because the disturbed area will be returned to its pre-construction condition after the project is finished and there will be no increase in impervious surface.

The proposed project will not affect land uses, water uses, or natural resources in the Virginia Coastal Zone. The Virginia Coastal Zone is consistent with The Chesapeake Bay Preservation Act and the Chesapeake Bay Preservation Area Designation and Management standards, implemented by the "Chesapeake Bay Preservation Ordinance" in the Code of the County of Fairfax.*

Advisory Policies for Geographic Areas of Particular Concern

Although not required for the purposes of consistency, in accordance with 15 CFR 930.39(c), the federal agency should consider the advisory policies of the Virginia Coastal Resources Management Program. These policies are listed below:

a. Coastal Natural Resource Areas

Coastal Natural Resource Areas are vital to estuarine and marine ecosystems and/or are of great importance to areas immediately inland of the shoreline. Such areas receive special

attention from the Commonwealth because of their conservation, recreation, ecological, and aesthetic values. These areas are worthy of special consideration in any planning resources management process and include wetlands; aquatic spawning, nursery, and feeding grounds; coastal primary sand dunes; barrier islands; significant wildlife habitat areas; public recreation area; sand and gravel resources; and underwater historic sites.

The Dogue Creek dredging project and associated activities including the placement of dredge material at Possum Point will not affect areas that are worthy of special consideration in any planning resources management process.

By this certification that the Dogue Creek Dredging Project at Fort Belvoir Army Installation is consistent with the Virginia Coastal Resources Management Program, Virginia is notified that it has 6 months from the receipt of this letter and accompanying information in which to concur with or object to the Fort Belvoir Army Installation's certification. Pursuant to 15 CFR section 930.63 (b), if Virginia has not issued a decision within 3 months following commencement of State agency review, it shall notify Fort Belvoir of the status of the matter and the basis for further delay. The State's concurrence, objection, or notification of review status shall be sent to:

Patrick McLaughlin,
Chief, Environmental and Natural Resources Division
Department of Public Works
9430 Jackson Loop, Suite 100
Fort Belvoir, Virginia 22060-5116

CERTIFIED BY

14 June 2005

Patrick McLaughlin,
Chief, Environmental and Natural Resources Division
Department of Public Works

Date

References:

CODE County of Fairfax. 2001. *Chapter 118: Chesapeake Bay Preservation*. Downloaded File 2 May 2001. (www.fws.municode.com)

CODE County of Prince William. 2003. *Chapter 32, Section 504: Chesapeake Bay Preservation Area Overlay District*. Downloaded file 17 January 2005. (http://www.co.princewilliam.va.us/countycode/32-504.htm)

EA Engineering, Science and Technology, Inc. 2004. Final Feasibility Assessment of Dogue Creek Dredging and Placement Alternatives. Prepared for United States Army Garrison, Fort Belvoir, Directorate of Public Works, October 2004.

Northern Virginia Planning District Commission and Engineers and Surveyors Institute (NVPDC & ESI). 1992. *Northern Virginia BMP Handbook: A Guide to Planning and Designing Best Management Practices in Northern Virginia.* Annandale, VA.